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### REMARKS

Applicant hereby requests further consideration of the application in view of the amendments above and the comments that follow. This response is submitted in reply to the Office Action dated March 3, 2005 ("the Action"). Claims 1-61 are pending in the application but stand rejected as being anticipated and/or obvious over one or more of U.S. Patent No. 5,741,136 to Kirksey et al. ("Kirksey I"), U.S. Patent No. 5,938,447 to Kirksey et al. ("Kirksey II"), and U.S. Patent No. 5,485,504 to Ohnsorge ("Ohnsorge"). Applicant respectfully disagrees.

#### I. The §102(b) Rejections

Claims 1-17 and 20-30 stand rejected under §102(b) as being anticipated by Kirksey I. More particularly, the Action states that Kirksey I teaches the elements of the rejected claims and with respect to Claims 1 and 2 cites col. 2, lines 12-24, and col. 7, lines 42-45 in support of this position. Applicants respectfully disagree.

Notably, Kirksey I (and II) is directed to an audiovisual work for teaching reading and does not teach or suggest any methods or devices for treating stuttering. In contrast, the present invention is to treat stuttering by enhancing fluency. Kirksey I proposes multiple modes of input to a user to enhance reading comprehension and recall. For example, Kirksey I proposes a display with an audiovisual presentation of a head/mouth making an utterance that is congruent with the text that is appended to the mouth. Kirksey I states that writings placed on pictures of audio-visual work so that as each word or other utterance is heard (by the user), a writing to be associated with the hearing is coordinated with the seeing of the writing such that the future presentation of either the utterance or the writing "shall evoke the other in the mind of the original viewer-listener". Abstract. Thus, in operation the user "listens" to the device with the display that provides an auditory sound of a text word and visual image.

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Clearly, the methods and devices of Kirksey I are not online with speech production of the user and do not teach or suggest, *inter alia*, displaying speech gestures with the speech production of a user.

Claim 1 recites:

1. A method for enhancing the fluency of persons who stutter, comprising the steps of:

displaying visual speech gestures associated with the articulatory movements of a person's mouth on a display while a patient having a stuttering or speech impediment is speaking so that the patient is able to visually perceive the articulatory movements of the person's mouth provided on the display such that the patient is able to refer to the display at desired times to thereby enhance the fluency of the speech of the patient.

Applicant submits that Kirksey I fails to teach at least the emphasized subject matter and does not anticipate Claim 1.

The Action also states that Kirksey I also teaches the recitations found in dependent Claims 2-17 and 20-30. Applicant respectfully disagrees and will address these rejections below.

#### A. Claim 2

The Action alleges at page 2 that Kirksey I teaches a method where the displaying step is carried out while the patient speaks at a substantially normal pace (Claim 2) and cites col. 2, lines 12-24 in support of these allegations. However, this recitation merely states that each writing appears near, on or in association with the head of the utterer (on the display) such that the written word, the spoken word and the accompanying facial .....expressions may be "simultaneously observed by the viewer/listener such that an impression is created in the proximity to and alignment with the mouth that the word has emerged from the mouth" (col. 2, lines 7-14). There is no teaching or suggestion that the listener/viewer (user) is speaking at a normal pace at all. Indeed, Kirksey I teaches away from such a feature because it is promoting reading and word association to a listener. As such, Applicant submits that Claim 2 is not anticipated by Kirksey I.

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### B. Claim 3

The Action states that Kirksey I teaches a method where the displaying step is carried out in advance of and temporally proximate to when the patient speaks, citing col. 2, lines 50-56 in support of these allegations. However, the cited passage is directed to a brief description of Figures 3 and 4 and describe the speaker (which is the utterer in the display NOT the listener/user of the display) with text appended to the mouth of the utterer in the display. This citation clearly does not teach or suggest carrying out the displaying in advance of and temporally proximate to when a patient (stutterer) speaks. Claim 3 is not anticipated by the cited reference.

### C. Claims 4, 5 and 6

The Action states that Kirksey I teaches a method wherein the displaying step is performed such that any attendant auditory sound associated with the visual speech gestures is inaudible to the patient (citing col. 5, lines 40-47). However, this citation refers to when the "written word" appears on the display in connection with the audio-visual presentation. Applicant was unable to find any suggestion that proposes displaying speech gestures silently (without spoken audible utterances). Kirksey I proposes that an audio-visual presentation has periods of time in which words are being spoken and non-speaking periods of time in between. In the "one-word-at-a-time" procedure....the written word appears only during three intervals: (1) the "non-speaking period following the speaking of the prior word", (2) the "speaking of the word", and (3) the "non-speaking of the word before the next word is spoken." There is no teaching that the spoken word is spoken so that the utterance is inaudible to the user (Claim 4).

Similar to the rationale for Claim 4, the Action goes on to state that Kirksey I also proposes silent speech gestures as recited in Claim 5 and cites Figure 7 in support of this position. However, as noted in the Brief Description of the Drawings section (col. 2, lines 61-63), Figure 7 is a flow chart "illustrating a method expanding the audio portion of an audio-visual utterance/writing of the present invention." This feature is further explained at

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col. 8, where Kirksey I states that the method extends a time a word is spoken for spreading out the time a word is heard (col. 8, lines 52-55). This passage clearly supports Applicant's position that Kirksey I fails to anticipate Claim 5 and, indeed, teaches away from inaudible or silent output of the speech gestures.

The Action cites col. 6, lines 29-49 in support of the rejection of Claim 6, and alleges that Kirksey I teaches the displaying is carried out so that the visual speech gestures are rendered by a person silently mouthing word passages of text (Claim 6). However, this passage describes extending the "association opportunity" using the audiovisual emulation of the natural environment (association between actions and objects and corresponding descriptive utterances). The passage gives an example of a person that "speaks" the word cat, while the written word "c-a-t" can mutate to a picture of a cat. Applicant submits that Kirksey I fails to anticipate Claim 6 as it fails to teach having a person silently mouth word passages of text.

#### D. Claim 7

The Action states that Kirksey I teaches a method where the "linguistic content of the visual speech gestures is incongruous with the content of the speech output by the patient" and cites col., 13, lines 12-29, in support of this statement. Applicants disagree. This passage describes displaying a series of visual word symbols corresponding to and associable with each such word utterance "capable of teaching the viewer-listener the visual appearance of the uttered word." The visual word symbol appearing adjacent the head of the utterer....so that when so that the "utterance" and "word symbol" are associable at the same time by the "viewer-listener" (col. 13, lines 15-29)(emphasis added). This passage fails to teach or suggest having a user speak during the claimed method, much less speak with words that are incongruent to that being displayed on the screen. As such, Kirksey I fails to anticipate Claim 7.

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#### **E. Claims 8 and 9**

The Action rejects these claims over Kirksey I because Kirksey I allegedly teaches that the visual speech gestures are performed at a normal speech rate (Claim 8), citing col. 2, lines 12-24, col. 7, lines 42-45, and that the visual speech gestures correspond to articulatory movement of the person generating coherent speech (Claim 9), citing col. 2, lines 12-24, col. 7, lines 42-45. Applicants agree that Kirksey I proposes a display with a person making articulatory movements with an audible utterance and an associated textual word. These claims have been amended above to recite that the display is carried out without associated textual words (*i.e.*, without prominently or proximately associated textual words or symbols). Applicant submits that Claims 8 and 9 are not anticipated by the cited reference for at least the above reasons.

#### **F. Claim 10**

The Action states that Kirksey I also teaches that the visual speech gestures correspond to articulatory movements of a person generating incoherent speech (citing col. 2, lines 12-24, col. 7, lines 42-45, and col. 13, lines 13-29). However, the cited passage at col. 2 describes relating the motion of the mouth to the uttered word that has emerged from the mouth. A word is not incoherent speech. The cited passage at col. 7 similarly refers to the spoken words that appear in planes parallel to the screen upon which the audio-visual is presented. Again, the words are not incoherent speech. The cited passage at col. 13, is directed to teaching a user (the viewer-listener) the visual appearance of the uttered word. These passages actually teach away from incoherent speech as the purpose of the Kirksey I patent is to teach the meaning of words. Accordingly, Applicants submit that Claim 10 is not anticipated by the Kirksey I.

#### **H. Claim 12**

The Action states that Kirksey I teaches adjusting the visual presentation of the output responsive to user input at col. 6, lines 29-44. However, this passage merely describes

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displaying whole words to a viewer for sight reading. The same cited passage at Kirksey II states that the repetition of words which "defines the act of reading, the teaching of which ability is a purpose of the present invention." Hence Kirksey I (and II) fails to anticipate Claim 12.

#### **I. Claim 13**

The Action states that Kirksey I teaches zooming to enlarge the mouth region (based on user input), citing col. 8, lines 39-64. Applicants were unable to find any teaching of where a user can zoom to adjust the mouth region at this cited passage (in either Kirksey I or II). Accordingly, this claim is not anticipated by the cited reference.

#### **J. Claims 16, 20**

The Action states that Kirksey I teaches that the visual speech gestures are generated by a plurality of different persons, citing col. 8, lines 39-64 and col. 7, lines 62-67. However, again, Applicants were unable to find support for this position at the cited passages. The col. 8 cited passage describes how the graphic designer creates the audio-visual work by adding graphic or text (word) that is superposed on the digital signal. The passage states that additional characters may be given to the font of letters in the word (col. 8, lines 48-49). The col. 7 passage describes positioning groups of letters where they will most likely be seen by the viewer as the word is spoken. Kirksey II at col. 7 proposes two people conversing with a plane for the written text between them. However, Kirksey II fails to teach that a plurality of persons are generally concurrently generating articulatory movements as recited in Claim 16 or that the plurality of persons the display generates the visual speech gestures without audible attendant word sounds as recited in Claim 20. As such, these claims are not anticipated by either Kirksey I or II.

#### **K. Claims 11, 17**

The Action states that Kirksey I teaches displaying directly into the retina of the eye of the patient at col. 5, lines 48-55. Applicants believe that the Action intended to cite Kirksey

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II as Applicant was unable to find a relevant description in Kirksey I at this citation. Again, however, the user is not being treated for stuttering.

In any event, the Action cites Kirksey I as teaching that the "displaying is directly into the retina" (regarding Claim 11) and that the display is carried on the frames of eyeglasses (regarding Claim 17), in each instance the Action cites substantially the same passage, i.e., col. 5, lines 48-55 or 49-55). Kirksey II states that, "words may be placed on an audiovisual work so that they are visible only to a viewer who uses a special reading device. This is analogous to three-dimensional presentations that are visible only when the viewer wears a special type of eyeglasses" (col. 5, lines 51-54) (emphasis added). Thus, Applicant submits that Kirksey II proposes that a user employ glasses to read text on the display but does not teach or suggest directly displaying into the retina or that the display itself is carried on the frame of eyeglasses. As such, these claims are not anticipated by Kirksey I or II.

#### **L. Claim 21**

The Action states that Kirksey I teaches that the visual speech gestures are selectable by the patient (citing col. 10, lines 11-64). However, at col. 10, lines 23-24, this passage states that the words or other alpha-numerical symbols can be placed on tapes, films computer diskettes, CD ROMS etc. This passage goes on to state that "the learning by the viewer/listener occurs without specific effort" and the "sequencing may continue ...from beginning to end" (col. 10, lines 33 and 29, respectively). Thus, it appears there is no user input for selection other than perhaps a selection of the CD that is used. As such, Applicant respectfully submits that Claim 21 is not anticipated by the cited reference.

#### **M. Claim 22**

The Action states that Kirksey I teaches that the visual speech gestures of different persons speaking textual matter recognizable to the patient in the language of the patient with the textual matter being "incongruous with the speech content of the patient" citing col. 8, lines 39-64, col. 7, lines 62-67). As discussed before the "viewer/listener" is listening during the method proposed by Kirksey I (and II), not speaking. Further, if speaking at all, the

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listener would likely repeat the word written and spoken on the display proposed by Kirksey I (and II) and the speech would then be "congruent" with that displayed. Applicant submits that the claim is not anticipated by the cited reference.

#### N. Claims 23, 28, and 29

The Action states that Kirksey I teaches that the visual speech gestures of the different persons comprise silent articulatory movement associated with one or more of nursery rhymes, poems, song lyrics, speeches, national pledges, biblical passages....(citing col. 8, lines 39-64). Applicant respectfully disagrees. This passage in Kirksey I fails to teach or suggest silent output at all as it's primary purpose is to teach words to a listener, creating the association of "sound and writing" (col. 8, line 21)(emphasis added). In contrast, Claim 23 is directed at using generally inaudible or silent articulatory gestures of well-known words for enhancing fluency of a person that stutters. Claim 23 is not anticipated by the cited reference.

The Action states that col. 8, lines 39-64 also anticipates Claim 28 because it allegedly teaches that the displaying step is carried out substantially continuously during the speech of the patient (viewer). Again, the claim recites that the displaying is carried out substantially continuously while the viewer/user is speaking NOT that the speaker provided by the display is speaking while being displayed. In contrast, as noted above, the viewer/listener of Kirksey I (or II) is listening during the displaying for reading/learning. Claim 28 is not anticipated by the cited reference.

Similarly, the Action states that Claim 29 is anticipated by the same cited passage in Kirksey I (col. 8, lines 39-64). Again, Applicant respectfully disagrees. Applicant submits that the visual speech gestures provided by the display of Kirksey I (and II) are not incongruous with the speech of the viewer/listener (the viewer is meant to listen NOT talk while viewing the display) and the auditory sound is not suppressed as it is the goal of Kirksey I (and II) to teach reading by providing a word with a related pictorial and uttered word (see also col. 8, lines 10-15 of Kirksey I).



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#### O. Claims 25, 27

The Action states that Kirksey I proposes generating an auditory stimulus that is audible to the patient and unrelated to the visual speech gestures of the displaying step (citing col. 10, lines 11-64). Kirksey I proposes that not "all words spoken during a work need a corresponding written word" as selected periods of running the work may have special difficulties in literation (col. 10, lines 18-20). Kirksey I also states that the speaker's speech (the person in the audiovisual work on the display) may be muffled (col. 10, lines 1-5). Thus, the cited passage in Kirksey I is primarily directed at the generation of writings with the utterances from the display. Kirksey I fails to teach generating an auditory stimulus that is audible to the patient that is unrelated to the visual speech gestures (the words or utterances provided on the display relate to the written text or objects for word association). As such, Kirksey I fails to anticipate Claim 25.

Further, Kirksey I fails to teach or suggest an auditory stimulus separate from the visual gestures as described above that is also selectably activated by user input. Kirksey II at col. 10, lines 40-49 proposes "differentiating words" by causing the words to enlarge, etc. There is no description at the cited passage that says a user can direct the "differentiating" much less that a non-related auditory stimulus can be initiated by the user. Claim 27 is not anticipated by Kirksey I and/or II.

#### P. Claim 26

The Action states that Kirksey I teaches a method where the displaying step is carried out in response to the onset of a stuttering event, citing col. 6, lines 29-44. Again, this passage in Kirksey I is directed to teaching "reading by presenting to the student whole words as distinguished from syllables or letters of a word. Viewing and remembering a whole word is akin to viewing and learning a symbol...". Similarly, the cited passage in Kirksey II, also is directed to presenting words in pictorial settings (presenting alphabet words simultaneously with spoke and/or pictogram reference) to promote reading. Neither Kirksey I or II teach

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displaying in response to the onset of a stuttering event of the user/viewer. As such, Claim 26 is not anticipated by either of the references.

## II. The §103 Rejections

### A. Claims 18-19

The Action rejects Claims 17-18 as being obvious over Kirksey II in light of U.S. Patent No. 5,485,504 to Ohnsorge ("Ohnsorge"). More particularly, the Action states that Kirksey II teaches a head mounted display "in the form of special eyeglasses" but concedes that Kirksey II fails to teach a display operably associated with a telephone (Claim 18) or a wireless telephone (Claim 19). Applicant respectfully disagrees.

First, Applicant believes that the Action meant to state that Claims 18-19 (rather than 17-19) stand rejected under this ground of rejection. That is paragraph 4 of the Action (p. 7) states that Claims 17-18 stand rejected while the text under the paragraph 4 header discusses only Claims 18 and 19. Applicant will address this rejection based on the assumption that the Action meant to refer to Claims 18 and 19.

Second, as noted above in relation to the §102 rejection of Claims 11 and 17, Kirksey II states that, "words may be placed on an audiovisual work so that they are visible only to a viewer who uses a special reading device. This is analogous to three-dimensional presentations that are visible only when the viewer wears a special type of eyeglasses" (col. 5, lines 51-54) (emphasis added). Thus, Applicant submits that Kirksey II proposes that a user employ glasses to read text on the display (such as 3-D glasses) but does not teach or suggest that the display itself is carried on the frame of eyeglasses.

Further, absent the teachings of the present invention, there would have been no motivation to combine the Kirksey II display with a telephone as proposed by Ohnsorge (as recited in Claims 18 or 19). Kirksey II is directed to teaching reading and a user of the proposed Kirksey II device would not find it useful to try to learn to read while having a telephone call. In contrast, the present invention is directed to enhancing fluency, and reference to a fluency aid as the user speaks with the displaying carried out by a telephone is helpful.

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#### **B. Claims 31-48 and 49-61**

The Action states that the apparatus claims (Claims 31-48) and the computer program product claims (Claims 49-61) are rejected under similar rationale to Claims 1-30 as they are similar in scope and content. Applicant respectfully submits that the claims are patentable for similar rationale as the method claims discussed above.

#### **III. New Claims**

Applicant has added new Claims 62-70 in order to form a more complete claim set for the application. Applicant submits that the claims are supported by the specification and/or figures and patentable over the cited prior art. Entry, consideration and allowance of the claims are respectfully requested.

#### **IV. Claim Amendments**

Out of an abundance of caution, Applicant notes that the claim amendments above were provided to more clearly define the claimed invention and/or to correct certain claim informalities.

#### **V. Formal Drawings**

Applicant also notes that formal replacement drawings have been submitted concurrently herewith under separate cover.

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## VI. Conclusion

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,



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Rosa Lee Brinson